



Montana DNRC Forestry Division

SERVICE FORESTRY

Forest Pest Management

Forest Practices

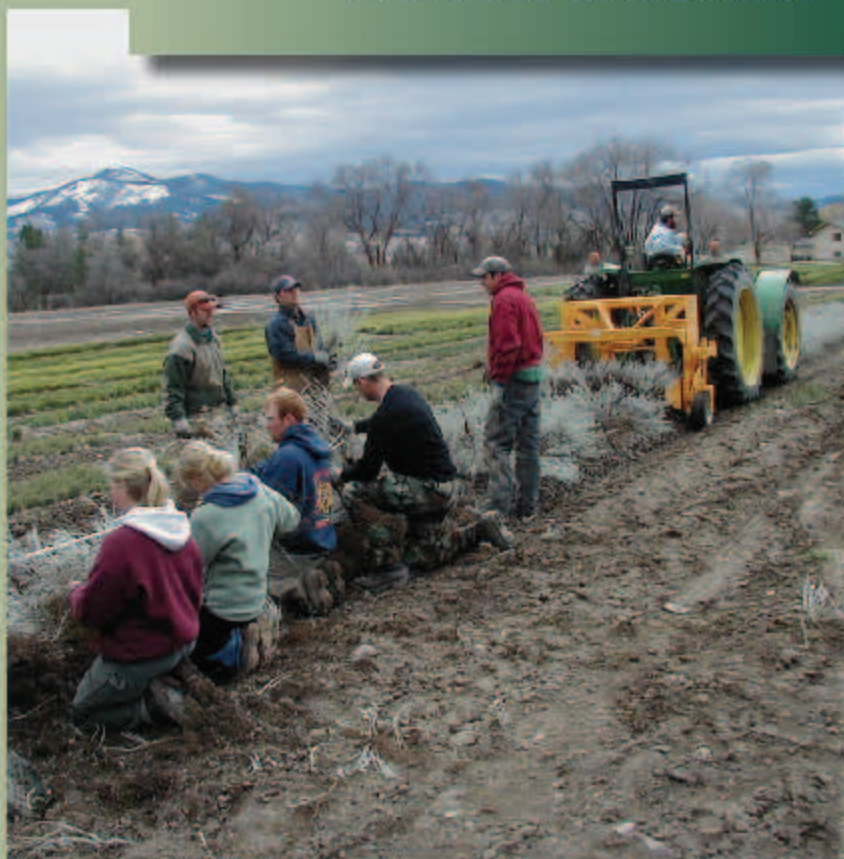
Forest Stewardship

Montana Conservation
Seedling Nursery

Urban and Community
Forestry

Montana Conservation Seedling Nursery

*Providing Locally Adapted
Seedlings for Conservation
Practices in Montana*



Montana Department of Natural Resources and Conservation Forestry Division Service Forestry Bureau Montana Conservation Seedling Nursery

DNRC's Conservation Seedling Nursery produces and distributes seedlings for conservation plantings such as fire and logging reforestation, farmstead windbreaks, stream stabilization, wildlife habitat, and other conservation uses. The nursery provides seedlings to private landowners, state and federal agencies, tribal agencies, Conservation Districts, and conservation organizations. Over 1,000 landowners planted state-grown seedlings in FY 2004, in every county in the state. The nursery produces seedlings of 65 species of shrubs, trees, and grasses, and continually works to update species selection and to develop plant materials adapted to Montana environments. DNRC nursery plants are produced strictly for conservation uses, and are not sold for ornamental or landscaping purposes.

Nursery staff members work closely with county Conservation Districts and Montana State University Extension Service offices to assist Montana landowners in implementing planting programs. Nursery staff members also produce educational materials to help cooperators in tasks such as the design of conservation plantings, seedling handling and planting, and subsequent care.

The nursery is a state special revenue program funded solely by revenue generated from the sale of seedlings. Operating costs are minimized to ensure an affordable supply of high quality, locally adapted seedlings for Montana landowners.

Goal

Produce high quality, locally adapted, source identified seedlings for use in conservation practices in Montana.

Affordable Seedlings Adapted to Montana Environments Contribute to the Success of Conservation Projects

The Montana Conservation Seedling Nursery is the only nursery in the country whose sole focus is the production of seedlings specifically suited for conservation practices in Montana. Montana environments can be variable and harsh; seedlings that are adapted to local environmental conditions have higher survival and growth rates, increasing the likelihood of success of conservation projects.

Whether the customer is a state agency seeking to reforest hundreds of acres, a conservation group working on a stream restoration project, or a rancher planting a shelterbelt, all hope to see their investment in time, money, and resources produce successful conservation results. The DNRC nursery strives to develop and deliver the best plant materials possible to help attain their customers' goals.

Accomplishments FY 2004

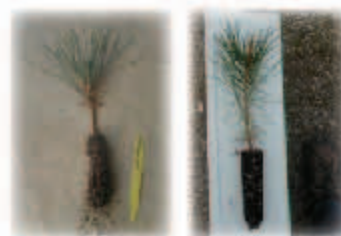
Conservation seedlings delivered	973,721
Trust Land Management Division seedlings delivered	99,055
Number of landowners served	1,133
Increase in production over FY 2003	19%



Montana Conservation Seedling Nursery Operations

Seedling Types Available

DNRC's nursery produces more than 65 species and 125 varieties or seed sources of grass, shrub, deciduous tree, and coniferous tree seedlings. The nursery regularly updates its selection of species and varieties to reflect changing conservation requirements in Montana and as new and improved varieties are developed.



Examples of containerized ponderosa pine seedlings.

Continuous Improvement of Nursery Stock

Many of the DNRC nursery's seedlings are produced from seed derived from the Montana Interagency Tree and Shrub Improvement Study (MITOSIS). The study was a cooperative effort to evaluate the performance of various species of plants in established Northern Great Plains plantings. The selected plantings were evaluated for over 10 years and the best-performing plants were chosen for seed orchard establishment at the nursery. The nursery's on-site orchards provide seeds for many shrub and tree species. The quality of available stock is improved through continued development of these seed production stands.

Nursery staff members also work closely with the Natural Resource Conservation Service's Bridger Plant Materials Center to develop plants specifically adapted to Montana environments. Work includes developing plant varieties that are adapted to thrive in a wide range of environmental conditions, as well as varieties that are adapted to very specific environmental conditions.

Seedling Production and Distribution

The nursery currently produces 550,000 bareroot and 680,000 containerized seedlings annually, and has the capacity to produce an additional 1,000,000 bareroot seedlings annually. Seedlings that are ready for planting are prepared, packaged, and transported to 50 distribution centers around the state, typically Conservation

District or Extension Service offices. The nursery staff continually researches and develops cost-efficient nursery production practices. The nursery recently implemented an outdoor production system for containerized seedlings, increasing production capacity by 100,000 seedlings without incurring the costs of additional greenhouse construction.



Frost protection fabric increases seed germination.



Greenhouse seedling production.



Beds of bareroot deciduous tree seedlings.



Harvesting bareroot spruce seedlings for distribution.

Educational Outreach and Technical Assistance

Nursery staff members have produced a number of educational brochures and pamphlets, and provide technical assistance to help landowners with conservation planting programs. Nursery staff members assist landowners with tasks such as species selection, planting design, proper site preparation, long-term seedling care, and pest identification and treatment. The nursery also provides referrals to other natural resource agencies and to private consultants who can help landowners complete their planting programs. When possible, staff members try to provide a referral to a specialist in the landowner's area who can provide on-the-ground assistance.

The nursery has a strong working relationship with the Montana Nursery and Landscape association, and cooperates with the association to provide technical assistance to private nurseries and strengthen the industry.

Montana Conservation Seedling Nursery Seedling Use in FY 2004

Conservation Practice	Number of Seedlings	Number of Landowners
Reforestation	540,533	86
Wildlife habitat	105,435	160
Windbreaks	189,306	602
Shelterbelts	50,036	110
Stream stabilization	49,933	40
Living snow fences	5,912	26
Erosion control	3,351	3
All other uses	29,195	106
TOTAL	973,721	1,113

The nursery tries to closely match its annual production of seedlings to expected demand, and is prepared and ready to respond with increased production when higher levels of seedling demand are anticipated, such as after major wildfires.

Examples of Conservation Plantings with DNRC Nursery Seedlings

Wildlife Habitat: Pheasants Forever

Pheasants Forever is a non-profit organization dedicated to the protection and enhancement of habitat for pheasants and other wildlife. The organization has county chapters in Montana that work with private landowners on habitat protection, restoration, and improvement projects. Projects include using seedlings from the DNRC nursery to plant farm shelterbelts that, when mature, will provide woody cover for pheasants and other wildlife.



Opposite, top: Habitat enhancement planting by Pheasants Forever.

Opposite, bottom: Planting tree seedlings on state trust land.

Below: Tenmile Creek.



Reforestation: DNRC Trust Land Management Division

Each year the nursery produces a large number of tree seedlings for DNRC's Trust Land Management Division (TLMD), for use in reforestation after timber harvests or fires on Montana State Trust Lands. The TLMD provides seeds to the nursery, which uses the seeds to grow seedlings adapted to the specific conditions at the reforestation sites. The TLMD is then responsible for planting the seedlings.

Stream Restoration: Tenmile Creek

The upper Tenmile Creek watershed is the main source area for Helena's drinking water, and is also a designated Superfund site because many abandoned mines and tailing piles discharge water contaminated with heavy metals like arsenic and lead into the creek. The Upper Tenmile Watershed Steering Group, a partnership of federal, state, and local agencies, and local citizens, has been working on cleanup efforts and stream restoration in the upper watershed since 1997. The group's work includes restoration of riparian areas; over 30,000 seedlings have been planted to help reduce stream sedimentation and improve fisheries habitat.

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